

Title (en)  
OPTICAL PICKUP DEVICE

Title (de)  
OPTISCHE LESEKOPFVORRICHTUNG

Title (fr)  
DISPOSITIF DE LECTURE OPTIQUE

Publication  
**EP 2096636 A4 20100127 (EN)**

Application  
**EP 07806863 A 20070906**

Priority  
• JP 2007067422 W 20070906  
• JP 2006339617 A 20061218  
• JP 2007164510 A 20070622

Abstract (en)  
[origin: EP2096636A1] A pickup device includes a diffraction grating 12 for separating a light beam emitted from the light source into at least three light beams. The diffraction grating 12 is divided into four regions by straight lines extending in a direction parallel to a tangential direction of tracks of an optical information recording medium. A periodic structure of a second region 12B has a phase difference of approximately 180 degrees from a periodic structure of a third region 12C, and a periodic structure of a first region 12A has a phase difference of approximately 180 degrees from a periodic structure of a fourth region 12D.

IPC 8 full level  
**G11B 7/09** (2006.01); **G11B 7/135** (2012.01)

CPC (source: EP KR US)  
**G11B 7/09** (2013.01 - KR); **G11B 7/0903** (2013.01 - EP US); **G11B 7/1353** (2013.01 - EP KR US); **G11B 2007/0006** (2013.01 - EP US)

Citation (search report)  
• [DA] US 2004081064 A1 20040429 - OHNISHI KUNIKAZU [JP], et al  
• [A] EP 0762396 A1 19970312 - MITSUBISHI ELECTRIC CORP [JP]  
• [A] EP 1686573 A2 20060802 - SAMSUNG ELECTRONICS CO LTD [KR]  
• See references of WO 2008075484A1

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US7940631B2

Designated contracting state (EPC)  
DE

DOCDB simple family (publication)  
**EP 2096636 A1 20090902; EP 2096636 A4 20100127; EP 2096636 B1 20120627**; CN 101473375 A 20090701; CN 101473375 B 20110831; JP 2008176899 A 20080731; JP 4106072 B1 20080625; KR 20090092693 A 20090901; TW 200828291 A 20080701; US 2010014411 A1 20100121; US 2010238780 A1 20100923; US 7751297 B2 20100706; US 7898927 B2 20110301; WO 2008075484 A1 20080626

DOCDB simple family (application)  
**EP 07806863 A 20070906**; CN 200780023247 A 20070906; JP 2007067422 W 20070906; JP 2007164510 A 20070622; KR 20087031146 A 20070906; TW 96145963 A 20071203; US 30357807 A 20070906; US 79155810 A 20100601